

CLAIMS

1. A cylinder for an internal combustion engine, the cylinder comprising a wall generally forming the cylinder, a coolant passage to provide a flow of coolant around the wall, a metallic ring radially inward of the wall at the upper end of the cylinder, the metallic ring being capable of withstanding a higher temperature than the wall, and an insulating ring between the metallic ring and the wall extending from the top end of the metallic ring for only part of the length of the metallic ring to provide a thermal barrier to reduce the transfer of heat from the metallic ring to the wall in the vicinity of the insulating ring.

2. A cylinder according to claim 1, wherein the insulating ring extends for less than half of the axial length of the metallic ring.

3. A cylinder according to claim 2, wherein the insulating ring extends for less than a quarter of the axial length of the metallic ring.

4. A cylinder according to any one of the preceding claims, wherein the axial length of the insulating ring is less than 10% of the cylinder bore.

5. A cylinder according to claim 4, wherein the axial length of the insulating ring is less than 5% of the cylinder bore.

6. A cylinder according to any preceding Claim, wherein the insulating ring is ceramic.

7. A cylinder according to Claim 6, wherein in the insulating ring is a ceramic tape.

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8. A cylinder according to claim 6, wherein the insulating ring is sprayed onto the metallic ring and/or liner.

5 9. A cylinder according to claims 1 to 5, wherein the insulating ring is an air gap.

10. 10. A cylinder according to any one of the preceding claims, wherein the wall comprises an outer portion and a liner, wherein the insulating ring is between the liner and the metallic ring.

15 11. A cylinder according to any of the proceeding claims, wherein the metallic ring is a high temperature alloy.

12. A cylinder according to Claim 11, wherein the metallic ring is a nickel alloy.

20 13. A cylinder according to Claim 12, wherein the metallic ring is Nimonic.

25 14. A cylinder according any one of the proceeding claims, wherein the metallic ring protrudes slightly into the bore of the piston to act as an anti-polishing ring on the piston.

30 15. An cylinder according to any one of the proceeding claims, wherein the coolant passage is helical and progresses around the axis of the cylinder.